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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-28 (Canceled)

29. (New) An inflator device comprising:

a diffuser chamber, said diffuser chamber comprising a plurality of diffuser orifices forming a diffuser exit area for flow of product gas from said inflator device;

a first combustion chamber connected to said diffuser chamber, said first combustion chamber having a first combustion chamber exit area comprising a first orifice and providing independent fluidic communication between said first combustion chamber and said diffuser chamber;

a supply of a first gas-generating pyrotechnic material having a burn rate that is pressure dependent contained within said first combustion chamber and wherein at least a portion of said supply of the first gas-generating pyrotechnic material is reactable, the first gas-generating pyrotechnic material having a burn rate pressure dependency of at least about 0.55, where the burn rate pressure dependency is represented by n in a burn rate expression:

$$r_b = k(P)^n$$

where r_b is the burn rate of the first gas-generating pyrotechnic material, k is a constant, P is a combustion pressure, and n is a slope of a linear regression line drawn through a log-log plot of burn rate versus pressure;

a second combustion chamber connected to said diffuser chamber, said second combustion chamber having a second combustion chamber exit area comprising a second orifice and providing independent fluidic communication between said second combustion chamber and said diffuser chamber; and

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a supply of a second gas-generating pyrotechnic material contained within said second combustion chamber and wherein at least a portion of said supply of the second gas-generating pyrotechnic material is reactable;

wherein, during a single stage combustion of said supply of the first gas-generating pyrotechnic material, said supply of the first gas-generating pyrotechnic material is selectively reactable to produce a first combustion chamber single stage combustion product gas, said first orifice being controlling orifice for the flow of the first combustion chamber single stage combustion product gas from said inflator device;

wherein, during a single stage combustion of said supply of the second gas-generating pyrotechnic material, said supply of the second gas-generating pyrotechnic material is selectively reactable to produce a second combustion chamber single stage combustion product gas, said second orifice being controlling orifice for the flow of the second combustion chamber single stage combustion product gas from said inflator device; and

wherein, during a dual stage combustion, said supply of the first gas-generating pyrotechnic material is reactable to produce a first combustion chamber dual stage combustion product gas and said supply of the second gas-generating pyrotechnic material is reactable to produce a second combustion chamber dual stage combustion product gas, said diffuser exit area controlling the flow of the first combustion chamber dual stage combustion product gas and the flow of the second combustion chamber dual stage combustion product gas from said inflator device whereby internal combustion pressure within both said inflator device and said first combustion chamber increases and the burn rate of said supply of the first gas-generating pyrotechnic material increases.

30. (New) The inflator device of claim 29 wherein during the single stage combustion of said supply of the first gas-generating pyrotechnic material, said supply of the first gas-generating pyrotechnic material having a burn duration of at least about 60 msec.

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31. (New) The inflator device of claim 29 wherein during the dual stage combustion of said supply of the first gas-generating pyrotechnic material, said supply of the first gas-generating pyrotechnic material having a burn duration of less than about 60 msec.

32. (New) The inflator device of claim 29 wherein during the single stage combustion and the dual stage combustion of said supply of the second gas-generating pyrotechnic material, said supply of the second gas-generating pyrotechnic material having a burn duration of less than about 50 msec.

33. (New) The inflator device of claim 29 wherein during the dual stage combustion the reaction of said supply of the second gas-generating pyrotechnic material is offset about 5 msec to about 30 msec with respect to the reaction of said supply of the first gas-generating pyrotechnic material.

34. (New) The inflator device of claim 29 further comprising:
a first initiator in discharge communication with said first combustion chamber, and in operational initiating contact with said supply of the first gas-generating pyrotechnic material; and

a second initiator in discharge communication with said second combustion chamber, and in operational initiating contact with said supply of the second gas-generating pyrotechnic material,

wherein during the single stage combustion one of said first initiator and said second initiator is activatable, wherein activation of said first initiator results in initiation of the reaction of said supply of the first gas-generating pyrotechnic material and activation of said second initiator results in initiation of the reaction of said supply of the second gas-generating pyrotechnic material, and during the dual stage combustion said first initiator is activatable to initiate the reaction of said supply of the first gas-generating pyrotechnic

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material and said second initiator is activatable to initiate the reaction of said supply of the second gas-generating pyrotechnic material.

35. (New) A method for operating the inflator device of claim 34 comprising:

initiating one of said first initiator to initiate reaction of at least a portion of said supply of the first gas-generating pyrotechnic material to produce said first combustion chamber single stage combustion product gas and said second initiator to initiate reaction of at least a portion of said supply of the second gas-generating pyrotechnic material to produce said second combustion chamber single stage combustion product gas.

36. (New) A method for operating the inflator device of claim 34 comprising:

initiating said first initiator to initiate reaction of at least a portion of said supply of the first gas-generating pyrotechnic material to produce said first combustion chamber dual stage combustion product gas; and

initiating said second initiator to initiate reaction of at least a portion of said supply of the second gas-generating pyrotechnic material to produce said second combustion chamber dual stage combustion product gas, wherein an internal combustion pressure developed within said first combustion chamber increases to increase the burn rate of the first gas-generating pyrotechnic material.

37. (New) The inflator device of claim 29 further comprising a cooling medium contained within said diffuser chamber.

38. (New) The inflator device of claim 29 wherein during the single stage combustion the first gas-generating pyrotechnic material has a maximum inflating flow rate of at least about 30 kmol-K/sec.

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39. (New) The inflator device of claim 29 wherein during the single stage combustion the first gas-generating pyrotechnic material has a maximum integrated inflating flow of about 1.7 kmol-K.

40. (New) The inflator device of claim 29 wherein during the single stage combustion the second gas-generating pyrotechnic material has a maximum inflating flow rate of at least about 44 kmol-K/sec.

41. (New) The inflator device of claim 29 wherein during the dual stage combustion the first gas-generating pyrotechnic material and the second gas-generating pyrotechnic material have a combined maximum inflating flow rate of at least about 90 kmol-K/sec.

42. (New) The inflator device of claim 29 wherein during the dual stage combustion the first gas-generating pyrotechnic material and the second gas-generating pyrotechnic material have a combined maximum integrated inflating flow of about 2.9 kmol-K.

43. (New) The inflator device of claim 29 wherein during the dual stage combustion an internal pressure of at least about 2500 psi is developed within each of said first combustion chamber and said second combustion chamber.

44. (New) The inflator device of claim 29 wherein the first gas-generating pyrotechnic material having a burn rate pressure dependency of at least about 0.65.

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45. (New) The inflator device of claim 29 wherein the first gas-generating pyrotechnic material having a burn rate pressure dependency within a range of about 0.65 to about 0.70.

46. (New) The inflator device of claim 29 wherein said supply of the second gas-generating pyrotechnic material has a burn rate that is pressure dependent, the second gas-generating pyrotechnic material having a burn rate pressure dependency of at least about 0.55, where the burn rate pressure dependency is represented by n in a burn rate expression:

$$r_b = k(P)^n$$

where r_b is the burn rate of the second gas-generating pyrotechnic material, k is a constant, P is a combustion pressure, and n is a slope of a linear regression line drawn through a log-log plot of burn rate versus pressure.

47. (New) An inflator device comprising:

a diffuser chamber, said diffuser chamber comprising a plurality of diffuser orifices forming a diffuser exit area for flow of product gas from said inflator device;

a first combustion chamber connected to said diffuser chamber, said first combustion chamber having a first combustion chamber exit area comprising at least one first orifice and providing independent fluidic communication between said first combustion chamber and said diffuser chamber;

a supply of a first gas-generating pyrotechnic material having a burn rate that is pressure dependent contained within said first combustion chamber and wherein at least a portion of said supply of the first gas-generating pyrotechnic material is reactable, the first gas-generating pyrotechnic material having a burn rate pressure dependency of at least about 0.55, where the burn rate pressure dependency is represented by n in a burn rate expression:

$$r_b = k(P)^n$$

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where r_b is the burn rate of the first gas-generating pyrotechnic material, k is a constant, P is a combustion pressure, and n is a slope of a linear regression line drawn through a log-log plot of burn rate versus pressure;

a first initiator in discharge communication with said first combustion chamber, and in operational initiation communication with said supply of the first gas-generating pyrotechnic material, said first initiator selectively initiating reaction of said supply of the first gas-generating pyrotechnic material in one of a single stage combustion and a dual stage combustion;

a second combustion chamber connected to said diffuser chamber, said second combustion chamber having a second combustion chamber exit area comprising at least one second orifice and providing independent fluidic communication between said second combustion chamber and said diffuser chamber;

a supply of a second gas-generating pyrotechnic material contained within said second combustion chamber and wherein at least a portion of said supply of the second gas-generating pyrotechnic material reactable; and

a second initiator in discharge communication with said second combustion chamber, and in operational initiation communication with said supply of the second gas-generating pyrotechnic material, said second initiator selectively initiating reaction of said supply of second gas-generating pyrotechnic material in one of the single stage combustion and the dual stage combustion;

wherein, during a single stage combustion of said supply of the first gas-generating pyrotechnic material, said supply of the first gas-generating pyrotechnic material is selectively reactable to produce a first combustion chamber single stage combustion product gas, said at least one first orifice being controlling orifice for the flow of the first combustion chamber single stage combustion product gas from said inflator device;

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wherein, during a single stage combustion of said supply of the second gas-generating pyrotechnic material, said supply of the second gas-generating pyrotechnic material is selectively reactable to produce a second combustion chamber single stage combustion product gas, said at least one second orifice being controlling orifice for the flow of the second combustion chamber single stage combustion product gas from said inflator device; and

wherein during a dual stage combustion said supply of the first gas-generating pyrotechnic material is reactable to produce a first combustion chamber dual stage combustion product gas and said supply of the second gas-generating pyrotechnic material is reactable to produce a second combustion chamber dual stage combustion product gas, said diffuser exit area controlling the flow of the first combustion chamber dual stage combustion product gas and the flow of the second combustion chamber dual stage combustion product gas from said inflator device whereby internal combustion pressure within both said inflator device and said first combustion chamber increases and the burn rate of said supply of the first gas-generating pyrotechnic material increases.

48. (New) The inflator device of claim 47 wherein said supply of the second gas-generating pyrotechnic material has a burn rate that is pressure dependent, the second gas-generating pyrotechnic material having a burn rate pressure dependency of at least about 0.55, where the burn rate pressure dependency is represented by n in a burn rate expression:

$$r_b = k(P)^n$$

where r_b is the burn rate of the second gas-generating pyrotechnic material, k is a constant, P is a combustion pressure, and n is a slope of a linear regression line drawn through a log-log plot of burn rate versus pressure.

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49. (New) The inflator device of claim 48 wherein at least one of the first gas-generating pyrotechnic material and the second gas-generating pyrotechnic material having a burn rate pressure dependency of at least about 0.65.

50. (New) The inflator device of claim 48 wherein at least one of the first gas-generating pyrotechnic material and the second gas-generating pyrotechnic material having a burn rate pressure dependency of about 0.65 to about 0.70.

51. (New) The inflator device of claim 47 wherein during single stage combustion an internal combustion pressure formed within one of said first combustion chamber and said second combustion chamber is not greater than about 2000 psi.

52. (New) The inflator device of claim 51 wherein during single stage combustion said at least first orifice controls an internal combustion pressure developed within said first combustion chamber to not greater than about 2000 psi.

53. (New) The inflator device of claim 47 wherein during the dual stage combustion said plurality of diffuser orifices control an internal combustion pressure developed within said first combustion chamber and said second combustion chamber with internal combustion pressure developed within said first combustion chamber and said second combustion chamber being greater than about 2500 psi.

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54. (New) A combination comprising:

an inflator device including a diffuser chamber comprising a plurality of diffuser orifices forming a diffuser exit area for flow of product gas from said inflator device, a first combustion chamber connected to the diffuser chamber, the first combustion chamber having a first combustion chamber exit area comprising a first orifice and providing independent fluidic communication between the first combustion chamber and the diffuser chamber, the first combustion chamber containing a supply of a first gas-generating pyrotechnic material having a burn rate that is pressure dependent, the first gas-generating pyrotechnic material having a burn rate pressure dependency of at least about 0.55, a first initiator in discharge communication with the first combustion chamber and in operational initiating contact with the supply of the first gas-generating pyrotechnic material, a second combustion chamber connected to the diffuser chamber, the second combustion chamber having a second combustion chamber exit area comprising a second orifice and providing independent fluidic communication between the second combustion chamber and the diffuser chamber, the second combustion chamber containing a supply of a second gas-generating pyrotechnic material, a second initiator in discharge communication with the second combustion chamber and in operational initiating contact with the supply of the second gas-generating pyrotechnic material; and

a control assembly in operational control communication with said inflator device, and providing a reaction initiating signal to one of the first initiator to initiate reaction of at least a portion of the supply of the first gas-generating pyrotechnic material contained within the first combustion chamber and the second initiator to initiate reaction of at least a portion of the supply of the second gas-generating pyrotechnic material contained within the second combustion chamber during a single stage combustion, and providing a reaction initiating signal to the first initiator to initiate reaction of the supply of the first gas-generating pyrotechnic material and the second initiator to initiate reaction of the supply of the second gas-generating pyrotechnic material during a dual stage combustion;

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wherein during a single stage combustion of the supply of the first gas-generating pyrotechnic material, the supply of the first gas-generating pyrotechnic material is selectively reactable to produce a first combustion chamber single stage combustion product gas, the first orifice being controlling orifice for the flow of the first combustion chamber single stage combustion product gas from said inflator device;

wherein during a single stage combustion of the supply of the second gas-generating pyrotechnic material, the supply of the second gas-generating pyrotechnic material is selectively reactable to produce a second combustion chamber single stage combustion product gas, the second orifice being controlling orifice for the flow of the second combustion chamber single stage combustion product gas from said inflator device; and

wherein during a dual stage combustion the supply of the first gas-generating pyrotechnic material is reactable to produce a first combustion chamber dual stage combustion product gas and the supply of the second gas-generating pyrotechnic material is reactable to produce a second combustion chamber dual stage combustion product gas, the diffuser exit area controlling the flow of the first combustion chamber dual stage combustion product gas and the flow of the second combustion chamber dual stage combustion product gas from said inflator device whereby internal combustion pressure within both said inflator device and the first combustion chamber increases and the burn rate of the supply of the first gas-generating pyrotechnic material increases.

55. (New) The combination of claim 54 wherein, during single stage combustion, the first orifice controls an internal combustion pressure developed within the first combustion chamber to not greater than about 2000 psi and wherein, during dual stage combustion, the diffuser orifices control an internal combustion pressure developed within the first combustion chamber and the second combustion chamber with internal combustion pressure developed within the first combustion chamber and the second combustion chamber being greater than about 2500 psi.

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56. (New) The combination of claim 54 wherein the supply of the first gas-generating pyrotechnic material having a burn duration during the dual stage combustion different than a burn duration of the supply of the first gas-generating pyrotechnic material during the single stage combustion.